

Appln. No. 10/532,949  
Response dated May 29, 2009 to  
Reply to Office Action of March 31, 2009

REMARKS

Reconsideration of the present application, as amended, is respectfully requested.

The May 31, 2009 Office Action and the Examiner's comments have been carefully considered. In response, claims are amended, and remarks are set forth below in a sincere effort to place the present application in form for allowance. The amendments are supported by the application as originally filed. Therefore, no new matter is added.

REJECTION UNDER 35 USC §112

In the Office Action claims 1-7 and 16-19 are rejected under the first paragraph of 35 USC 112 as failing to comply with the written description requirement. In response, claims 1, 2, 6 and 7 are amended to cancel the terminology pointed out by the Examiner. In view of the amendment of claims 1, 2, 6 and 7, reconsideration and withdrawal of the rejection of claims 1-7 and 16-19 under the first paragraph of 35 USC 112 are respectfully requested.

In the Office Action claims 1-7 and 16-19 are rejected under the second paragraph of 35 USC 112 as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicants regard as the invention. In response,

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claims 1, 2, 6 and 7 are amended to cancel the phrases which the Examiner contends make the claims indefinite. In view of the amendment of claims 1, 2, 6 and 7, reconsideration and withdrawal of the rejection of claims 1-7 and 16-19 under the second paragraph of 35 USC 112 are respectfully requested.

#### PRIOR ART REJECTIONS

In the Office Action, claims 1 and 6-7 are rejected under 35 USC 102(b) as being anticipated by Japanese Patent JP 07-099,379 (Suga et al.). Claims 2, 5 and 16 are rejected under 35 USC 103(a) as obvious over Suga et al. in view of USP 6,063,647 (Chen et al.). Claims 4 and 17-19 are rejected under 35 USC 103(a) as obvious over Suga et al. or Suga et al. in view of Chen, and further in view of USP 5,352,314 (Coplan).

The newly-cited Suga et al. reference (JP Patent Application Publication No. H07-99379) teaches:

- (i) a PET film 5 (having a thickness of 50 to 200  $\mu\text{m}$ ) is uniformly coated with an adhesive 6 made of ultraviolet curable resin (see paragraph [0008]);
- (ii) in the exposure process, the adhesive 6 is not exposed because light is blocked by a copper foil 4 of a CCL 1 (Copper Clad Laminate) which is adhered to the PET film 5, and thus the adhesive 6 keeps sufficient adhesion

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(see paragraph [0009]);

- (iii) after that, when supplying a specific amount of ultraviolet radiation from the side of the film 5, the adhesive 6 made of ultraviolet curable resin is cured and adhesion thereof degrades so that the adhered objects can be easily detached from each other (see paragraphs [0009] to [0010]);
- (iv) although the film 5 is uniformly coated with the adhesive 6, if an ultra-thin CCL having a thickness below 50  $\mu\text{m}$  is used, then it is preferable to separately provide adhesive-coated parts which are coated with adhesive 6 and non-adhesive parts which are not coated with the adhesive 6 (see paragraph [0011]);
- (v) specifically, it is preferable to regularly or periodically arrange such adhesive-coated parts or non-adhesive parts in the length and width directions, as shown in Fig. 2(a) (where adhesive-coated parts are uniformly and separately arranged in an embossed form, and are surrounded by non-adhesive parts) or Fig. 2(b) (where non-adhesive parts are uniformly and separately arranged, and are surrounded by adhesive-coated parts in a mesh form) (see paragraph [0011]);
- (vi) if the adhesive-coated parts and the non-adhesive parts

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are separately provided as described above, it is also preferable to entirely coat both end parts 51 of the film 5 with the adhesive 6 (see paragraph [0012]; and (vii) when separately providing such adhesive-coated parts and non-adhesive parts as described above, the adhesion between the base film of the CCL and the carrier film (which has the film 5) is further reduced, thereby reducing the force required for detachment of the adhered objects, and preventing the CCL from being broken.

With reference to the above disclosure, the Suga et al. reference may provide adhesive-coated parts and non-adhesive parts so as to reduce the adhesion by an adhesive made of ultraviolet curable resin, and thus to reduce the power required for the detachment performed after the ultraviolet radiation. Therefore, for the adhesive-coated parts and the non-adhesive parts, a regular repetitive pattern is recommended as shown in the specific examples in paragraphs [0011] to [0012] of the Suga et al. reference.

In contrast, the present claimed invention provides a holding and conveyance jig in which:

- (i) a weak-adherence adhesive pattern is formed on a

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surface of a plate of the jig, at a position corresponding to a non-conductive portion of the relevant printed circuit board, or

- (ii) a weak-adherence adhesive layer is formed on a surface of a plate of the jig, and a weak-adherence adhesive pattern subjected to surface roughening is formed on a surface of the weak-adherence adhesive layer at a position corresponding to a conductive portion of the relevant printed circuit board.

That is, the present claimed invention has a distinctive feature relating to the positional correspondence relationship between the weak-adherence adhesive pattern and the non-conductive portions of the relevant printed circuit board. Such a feature relating to the positional correspondence relationship is not disclosed, taught or suggested by the Suga et al. reference.

Although the Examiner seems to indicate that such a distinctive positional correspondence relationship is disclosed by the Suga et al. reference, Applicants respectfully state that the present claimed invention is not disclosed, taught or suggested by the Suga et al. reference.

Furthermore, the adhesive 6 of the Suga et al. reference is

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non "weak-adherence" when it is first coated, and is converted to a "weak-adherence" adhesive by performing ultraviolet curing after the exposure process. Therefore:

- (i) in the Suga et al. system, an additional "adhesion reduction" process such as ultraviolet curing, performed after the adhering, is necessary (which is clearly described also in claim 1 of Suga et al.), while such a process is unnecessary in the present claimed invention; and
- (ii) in the Suga et al. system, in the "strong-adhesive" state of the adhesive 6 attached to the CCL 1 or in the ultraviolet curing process performed later, undesired influence on the CCL 1 may be expected while in the present invention, such undesired influence is not expected because only the weak-adherence adhesive pattern is used.

Therefore, in accordance with the present invention, such weak-adherence adhesive pattern is effectively provided only at each position corresponding to the non-conductive portion of the relevant printed circuit board, thereby preventing a manufacturing problem or the like. Such effects cannot be obtained by any one or combination of the cited references.

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None of the other references of record close the gap between the present claimed invention as defined by independent claims 1, 2, 6 and 7. Therefore, claims 1, 2, 6 and 7 are patentable over Suga et al. and all of the references of record when taken either alone under 35 USC 102, or in combination under 35 USC 103.

In view of all of the foregoing, independent claims 1, 2, 6 and 7 and claims 3-5 and 16-19 are in form for immediate allowance, which action is earnestly solicited.

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Entry of this Amendment, allowance of the claims and the passing of this application to issue are respectfully solicited.

If the Examiner disagrees with any of the foregoing, the Examiner is respectfully requested to point out where there is support for a contrary view.

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If the Examiner has any comments, questions, objections or recommendations, the Examiner is invited to telephone the undersigned at the telephone number given below for prompt action.

Respectfully submitted,



Robert P. Michal  
Reg. No. 35,614

Frishauf, Holtz, Goodman & Chick, P.C.  
220 Fifth Avenue  
New York, New York 10001-7708  
Tel. (212) 319-4900  
Fax (212) 319-5101  
RPM/ms